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OPTICAL DEFECTS IN SCHOOL CHILDREN.

AN ADDRESS BEFORE THE MASSACHUSETTS TEACHERS' ASSOCIATION, AT ITS ANNUAL MEETING, OCTOBER 17th, 1868.

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IN responding, as a matter of public duty, to the invitation of your President, I shall have the honor of speaking of some topics relating to education as considered from a physician's point of view; and shall endeavor to explain, as briefly and simply as may be, certain optical conditions and their consequences, not as yet very well understood by the community, but which have an important bearing upon our future well-being as an educated people.

The best methods of imparting knowledge, and of rendering it available, as far as possible, for the necessities of the probable future of the learners, it is not my province to discuss. But, expressing no opinion as to what healthy children, with healthy eyes, may profitably be taught, I wish to show that numerous cases present themselves which require a deviation from established standards, both as to the mode and the amount of study, — on penalty of sacrificing the future usefulness of the scholar, and making him

incapable of profiting by the knowledge he has injured his eyes to obtain.

I would show, also, that the threatened misfortunes must be averted through the intelligence and vigilance of teachers; since, in many instances, the pupil himself will make no complaint, but will even be unconscious of the dangers he is incurring till the mischief is beyond repair.

Within a very few years, great advances have been made in a knowledge of the optical conditions necessary to perfect vision, and of the causes which disturb the normal exercise of this function. Till recently, much uncertainty existed as to whether the imperfect sight, or inability to use the eyes, frequently complained of, depended on optical defects or on organic structural changes. But the invention of the ophthalmoscope, by means of which we are able to illuminate and explore the interior of the eye, has made it possible at once to detect the latter, besides aiding in determining the presence of the former. It shows, moreover, in certain cases, the co-existence of both these morbid conditions, and their mutual dependence.

Not to trespass upon your patience, I leave out of question, in these remarks, such defects of sight as are due only to structural changes, — though many of these so far lessen the visual power as to allow of only moderate and cautious use of the eyes, — and shall ask your attention to some of the more common disturbances of the refractive and accommodative powers of the eye.

The normal eye, when looking at distant objects, (such as are at or beyond eighteen or twenty feet from it, the rays from which are considered as virtually parallel,) may be regarded as in a state of rest, and as an organ of *refraction* merely. Such parallel rays are without effort brought to a focus upon the retina, which forms a distinct image of the object looked at, and conveys the impression to the brain through the medium of the optic nerve. In order to the full perception of this mental impression, both eyes must receive an image upon corresponding portions of their retinæ, — any want of harmony in the direction of the axes of the two eyes, or any loss of perceptive power in either, at once rendering vision in a measure defective or confused.

The refractive power is modified by three principal deviations from the normal type in the construction of the organ. Sometimes the antero-posterior axis of the eye is too short, the globe is flattened from before backwards, rendering its refractive power insufficient to bring even parallel rays to a focus upon the retina. This is termed hyperopia or hypermetropia, or oversight, the focus being formed at a point beyond the proper limit. In other cases, the axis is too long, giving to the globe the form of an acorn or an egg, and by its excess of refraction bringing parallel rays to a focus before they reach the retina. For the formation of a distinct image in these eyes, rays must be divergent as they enter the globe. This is myopia or short-sightedness. In a third condition, the refractive surface of the cornea has a different curvature in different meridians, so that rays entering the eye in one plane come to a focus sooner than those entering in a plane at right angles to the first. In these cases, vertical or horizontal lines may be clearly seen, while those at right angles to them will appear indistinct, giving rise to much confusion of sight. This is astigmatism.

But in addition to this passive refraction, taking place when the organ is in a state of rest, the eye is endowed with another important optical function. It has a capability of *accommodation*, by which its focal power can be increased, and adapted, in a normal eye, to bring to a focus on the retina divergent rays, such as emanate from near objects. Thus only do we become able to read.

This enhanced refraction is effected principally by the action of the ciliary muscle upon the crystalline lens, increasing its convexity and thus its concentrating power. It is the loss of this power of adaptation, from the gradually increasing hardness of the crystalline precluding this change of form, which makes it necessary for most persons to assume convex glasses for looking at small objects, after reaching a certain age; though they still see clearly at a distance, which they could not do if flattening of the entire globe occurred with advancing age, as was formerly supposed to be the case.

Simultaneously with the action of the ciliary muscle upon the lens during accommodation for near vision, an auxiliary movement takes place in the muscles which turn the eyeballs towards the

nose; this harmonious associated action being essential to perfect binocular vision for near objects.

Anomalies either of refraction or accommodation may seriously interfere with vision, and render the eyes incapable of close and continuous application.

In hyperopia, where the focus for parallel rays is behind the retina, an accommodative effort must be made to bring even these rays to a focus upon its surface. If the degree of hyperopia is moderate, and the accommodative power good, divergent rays from near objects may still be brought to form a distinct retinal image. But the adaptive capabilities of the crystalline lens, and therefore of the eye, begin to diminish even at an early age, and if the hyperopia is considerable, the accommodative effort requisite for reading ordinary print cannot be kept up for more than a brief period. If it be longer persisted in, the hyperopic child or youth begins to have a sensation of discomfort and fatigue over the brows as well as in the eyes, which at last is so severe as to force him to desist; or, perhaps, the overstrained accommodative muscles give way, and vision at once becomes indistinct. After a few minutes' rest, this delicate muscular power is so far restored that study is again possible for a certain period, when the same phenomena recur, just as we see any other overtasked muscles yielding to fatigue.

This state of things is often little appreciated. The boy's eyes look well, and he has perfect vision. He makes no complaint while at play, and sees even fine print clearly when he first looks at it, and until his accommodative power becomes exhausted. Indeed, he cannot himself understand how it is that he is unable to learn his lessons, and why, perhaps, if called upon to read aloud he makes seemingly wilful blunders. Naturally enough, his teachers and parents think him idle or careless. But, with him, inattention is an imperative necessity, forced upon him by the pain resulting from continuous effort. As the day wears on, his difficulties increase with every hour of study, especially if during the short winter afternoon the light becomes insufficient. The more diligently he endeavors to apply himself to his books, the less able he is to do so, and the greater is the confusion of his vision; and he is perhaps reproached, if not punished, for his negligence, before his

friends become, at last, aware of his infirmity, and give him tardy credit for good intentions.

Such pupils need to be allowed to rest their eyes frequently, and should not be required to keep them fixed upon their books. They should have seats in the school-room so placed that they may have ample light, and should do little evening study. It should be understood that the state of their eyes is practically similar to that so familiar to us in old people, who can do nothing without their glasses, and they should not be expected or allowed to continue difficult work, as, for instance, in using a lexicon, too long at a time. Great leniency should be shown towards short-comings in the details of many studies. Even ignorance as to the precise situation of the capital of Kamtschatka might be overlooked as a venial offence, rather than harm should befal the scholar's eyes from straining them over the map to find that important place; especially as we may feel well assured that the pupil will have little difficulty in learning all he wants to know about it whenever he visits that country.

It is needless to say that too many of our school books, printed with worn type, upon thin paper, unfit as they are for even normal eyes, are especially to be deprecated in the cases just described. The makers of these abominations, and the school committees who from motives of false economy encourage their use, have much to answer for.

Where the hyperopia is excessive, the precautions I have urged will not be sufficient; but the pupil requires the aid of convex glasses for reading, and sometimes for distant vision; this being now and then the case even at seven or ten years of age.

A condition analogous to this often follows some of the diseases of children, particularly diphtheria, measles or scarlatina, resulting from a partial or complete paralysis of the nervous branches supplying the accommodative muscles. Usually this is but a temporary affection; but while it continues, it gives rise to symptoms resembling those of which an account has been given. The child appears tolerably strong and well, but his nervous system is still unequal to the fulfilment of some of its more delicate functions. The same caution is here to be observed as to protracted use of the

eyes; but more may be accomplished by medical treatment, and there is less often occasion to resort to glasses; though in some instances they may be used for a time with marked advantage.

A consequence of hyperopia, which would scarcely have been expected is strabismus or squinting, the eyes turning towards the nose (becoming crossed, as it is termed), because of the excessive efforts of the internal recti muscles to augment the accommodative power by convergence of the optic axes. This deviation ordinarily begins about the time when the child first tries to see small objects distinctly; and if allowed to increase, not merely becomes a confirmed deformity, but, which is of far more importance, leads to a gradual loss of vision in the eye which deviates most. This diminished power results from the non-formation of images on corresponding parts of the two retinæ; and distinct binocular vision being therefore impossible, the squinting eye at length ceases to make any effort to see, and disregards the relatively faint image formed on its retina until the visual faculty dies out for want of exercise, and the eye, to avoid confusing its fellow, turns yet more inwards. If sight is separately tested in the two eyes, it is frequently found to be very imperfect in that which shows most obliquity.

To obviate these evils, it is essential that eyes which show a tendency to strabismus should not look too closely or too long at small objects; or that they should be aided by convex glasses, which, though in young subjects they have their inconveniences, are yet frequently indispensable. An operation for rectifying the obliquity may oftentimes be rendered unnecessary by the use of these means; yet, if required on account of the persistency of the abnormal conditions, it should not be postponed till the supervention of the more serious lesions.

A small amount of astigmatism gives rise to little visual disturbance; many of those before me would doubtless observe a difference in the clearness of their perception of horizontal or vertical lines; but in its high degrees, the confusion of images is often sufficient to disable its subject from study or reading. It can be relieved only by carefully fitted cylindrical glasses, which refract rays passing through their plane of curvature, while those passing through the plane of their axis are unaffected.

Not to recount all the anomalies which may cause fatigue of vision, I pass to the consideration of another important and most numerous class of cases, known as myopia or shortsightedness.

In near-sighted eyes, the globe is more or less elongated, principally at the expense of its posterior half. Its refractive power is thus in excess. Parallel rays are brought to a focus before reaching the back of the eye, and, crossing each other, form circles of dispersion upon the retina. Images of distant objects are therefore ill defined. But this high refractive power enables such eyes to form, with little effort, very clear images of minute near objects,— to read with less light than is required for distinct vision by normal eyes, — and to dispense with glasses for reading at and after the age when others must assume them, (though it is not true, as is commonly supposed, that near-sightedness diminishes with age, so far as distant objects are concerned, except to a very slight extent.) The impression therefore prevails that near-sighted eyes are stronger than others, and they are accordingly allowed to indulge themselves in the most trying occupations, in which myopic persons seem to take a peculiar pleasure, — reading by twilight or moonlight, writing a very small hand, doing elaborate needlework, etc. No mistake could be more serious. It is true, a very slight myopia may almost be regarded as an advantage, as giving a microscopic perfection to minute vision; but in its high degrees, it is a morbid condition, tending to great diminution or even loss of sight. Hyperopic eyes, as I have shown, are liable to sufficiently grave disabilities; but these have their limit; whereas myopia often involves far graver consequences. The short-sighted child, even if unable to see exercises upon the blackboard across the school-room without strained efforts, makes no complaint of any amount of minute work if permitted to bring his eyes near his book or slate. Everything seems to be working smoothly with his visual apparatus while thus engaged; yet he is even then sowing the seed which is in many instances to bear bitter fruits of disappointment.

Myopia, as also hyperopia, is often inherited; and this congenital tendency may remain nearly dormant or even be gradually lessened; or it may be developed by improper management till it becomes a serious infirmity as regards the individual, and is transmitted, in a heightened degree, to his offspring.

It is during the years of study, say from ten to twenty years of age, that this progressive disposition is most marked. Before this time, the child pays little attention to small objects; and after this period, the tissues of the eye become firmer, and less subject to morbid change, provided this has not already begun.

It is therefore to teachers that we are to look to prevent the steady increase of disqualification and misfortune among those who are fitted, by intellectual culture, for the highest usefulness to society. The morbid changes I shall describe must be averted, not remedied; as, when once fully established, they are beyond the resources of professional skill.

The elongation of the axis of the globe, already mentioned as characteristic of myopia, comparatively seldom shows itself conspicuously in the front of the eye. The alteration in shape occurs mostly in the posterior half of the eyeball, where the tunics become distended and thinned. The layer of perceptive nerve tissue, the retina, follows, for a time, the change in the outer membranes, and, being thus spread over a larger surface, has less defining power in a given space than in a normal eye. But, besides this general giving way of the tissues, there is a special tendency to yield at and about the spot where the optic nerve enters the globe and expands to form the retina. This change, termed in professional parlance posterior staphyloma, which can be perfectly well seen with the ophthalmoscope, involves in a much higher degree the integrity of the nervous tissue, and its perceptive ability becomes lessened to an extent commensurate with the size of the staphyloma; though it may yet perhaps retain the power of conducting to the brain impressions received upon other portions of the retinal surface. Every degree of yielding renders the parts less able to resist a further change, and the bulging backwards is likely to increase, till at length, all the portions nearest the axis of vision having become involved, the sight is scarcely sufficient to allow of recognition of objects, with the aid of the strongest glasses. Even here, the morbid processes are not stayed; but the slightest imprudence in stooping or lifting, or in attempts to use the eyes, or any congestion of the globe, may at once cause effusion of fluid between the choroid and retina, forcing the latter from its normal position and suddenly ex-

tinguishing its powers. Blindness may and often does thus supervene in a single day.

Before the invention of the ophthalmoscope, but a very few years since, the pathology of this affection was far from being understood. It was regarded as an infirmity depriving its subject of many pleasures of vision, but no one looked upon it as an enemy within the camp waiting to accomplish a swift destruction. Near-sighted persons became blind, it is true; but the relation of cause and effect was never suspected: and as neither the patient nor the doctor saw anything, the loss of sight in the former was ascribed to amaurosis or paralysis of the optic nerve. Now, however, that we are able to discover these structural alterations, the full train of causes and consequences can be explained and demonstrated.

It is proper to give a brief exposition of the mode in which these changes are brought about, that we may learn how they may be prevented.

So long as a person having hereditary myopic tendencies keeps his head erect, and employs his eyes in looking at large objects only, the accommodative function is not brought into play, and, if he is only moderately short-sighted, he sees without effort and there is little congestion of the ocular circulation. If myopic to such a degree that his unassisted eye does not see objects at moderate distances, he may still obtain easy and distinct vision by the aid of concave glasses.

But if he strain his eyes by endeavoring to see, without glasses, objects beyond his range, as for instance figures on a too distant blackboard; or if he keep his head bent forward and his eyes continuously fixed on small objects, congestion of the internal vessels is liable to ensue, and the eyes become predisposed to morbid changes. Furthermore, the increased posterior development of the eyeball, and the ovoid form it has assumed, make the attachment of its muscles relatively disadvantageous and the movements of rotation in the orbit less free. Accommodation for small objects is therefore effected with difficulty, and at the expense of considerable lateral pressure by the muscles upon the globe, which of course tends to aggravate the giving way of its thinned posterior portions.

As these processes go on, with their mutual action and reaction,

accommodation grows more and more difficult, the internal recti muscles at last become insufficient to bring the deformed eyeballs to such a convergence as is requisite for binocular vision of near objects, and one eye gives up the effort to see and turns towards the temple, giving rise to divergent strabismus.

These phenomena form a sequence perfectly capable of explanation as to their mutual dependence. I do not mean to assert, however, that every near-sighted eye is imminently liable to all these dangers. In so doing, I should be refuted by the experience of many of those before me. Numbers of persons whose vision is excellent have even a high amount of myopia, perhaps continuing without change for years; bnt many of these instances are cases of acquired short-sight, where the congenital tendency existed in only a low degree, and would never have been developed but for the devotion of the individual to studious pursuits. In such a case, the myopia having originated, in a great measure, at or near adult age, after the ocular structures had acquired firmness, resistance has been successfully opposed to the processes of degeneration, and they have not reached their maximum. But, had the same person begun life with a considerable inherited myopia, a similar course of study might probably have induced progressive changes, which previous to adult age would have reached a degree precluding all hope of arrest at any point short of the gravest lesions.

Should the child of such a person exhibit obvious myopic symptoms, the parent must not presume too much upon his own immunity, but should take early precautions for his son's welfare.

The more extreme changes I have described are only rarely completed during school life. The mischief then begun reaches its full development in later years. The disease, for thus must myopia be regarded, is insidious in its approaches and in its advance, and therefore the more dangerous. Accustomed to imperfect perception of everything which is beyond a short distance from him, the myope is scarcely conscious that his sight grows gradually more and more imperfect; though he is perhaps aware that he is obliged to bring small objects nearer in order to see them distinctly. Thus he goes on, almost unwarned of danger, his eyes with eager diligence building the funeral pile of his hopes.

It is seldom before thirty, oftener not until fifty years of age or later, that the more fatal symptoms declare themselves, and vision is almost or entirely lost. But these sad cases are so frequent and so hopeless, and the lesser degrees of disability are so common, that the importance of early preventive measures cannot be too strongly urged. As I have said, remedies can do almost nothing to arrest this progressive deterioration. It is only by calling the attention of parents and teachers to the danger, that it may be warded off and prevented from steadily increasing the number of its victims.

As before remarked, the teacher must not wait for complaint from his pupils. Except as regards the blackboard or other distant objects, no difficulty in using the eyes will be spoken of. If the teacher happens to be a high pressure engine, the visual machinery of his myopic pupil will apparently smoothly respond to all the impetus he may desire to give. The break-down will occur only at a future time; but it will none the less be the result of former misuse, and the consequence of the want of knowledge and foresight on the part of those intrusted with the control of the most delicate of all the vital mechanisms.

But the evil day is not always entirely thus put far off in the future. I may perhaps be pardoned for citing a case in illustration. Ten days ago, a girl of less than eleven years of age, was brought to me by her mother, who had been obliged to take her from school because she could not learn her lessons on account of pain in the eyes. I found a very high degree of myopia, and even with the strongest glasses her visual power was only of one-half the normal acuteness. The ophthalmoscopic and other examinations showed much retrocession of the whole retina and large posterior staphyloma. I said, the child might go on carefully with some studies, but must lay others wholly aside. To this, the mother replied, "I have seen the head-master, who tells me she cannot go to school unless she keeps up with her class." This for her would be quite impossible, as well as most dangerous. She therefore cannot attend any public schools; her mother has no other resource, having small means and no culture; the child's education must therefore stop where it is. The history of the case made it evident that

this was an instance of rapidly progressive myopia, induced by endeavors to maintain her standing as a very bright child high up in the grammar school.

Progressive myopic changes being unlikely to take place at mature age, except where they had already reached a considerable development during childhood and youth, it is of the first importance to avoid during those periods every cause which might initiate extreme morbid tendencies. The future of a myopic child ought to be made very early a matter for serious consideration, and he should not be allowed to select, as he will be strongly disposed to do, occupations requiring close and continuous application with the head inclined forward, as in writing, engraving, sewing, etc.; but he should be trained for such pursuits as call for only general use of the eyes. This may often disappoint the fond wishes of his parents; though could they but have a glimpse of the hopeless future their ambition would prepare for him, they would think no sacrifice of profession or business too great if he might thus be saved from the impending evil.

During the years of study, then, the myopic pupil should not only not be required, but should not be permitted to follow the usual routine. As far as possible, he should be excused from attempting to learn minute details, and from close and continuous work with lexicons or in mathematics. Written exercises, often requiring of the eye double duty, first to learn the lesson, afterwards to write it, should by all means be dispensed with, except in composition. Map or other drawing requiring exactness, should be interdicted. The child should be taught to make his ears as well as his eyes useful servants to his memory, by giving close attention to oral instruction. Perfection in technical minutiæ, important to class rank under a formal system, but often of slight practical value, should be made of little account, and the pupil should be advised rather to rest satisfied with a knowledge of important general facts and principles. He should pursue, for the most part, only such studies as are likely to be of most consequence to him; or, if desirous of further acquirement, he should study less assiduously than others, with frequent interruptions, and without caring whether his position is at one end or the other of his class. When he can, he should

hold his book up before his eyes, keeping his head erect; and where this is impossible, as in work on the slate or in writing, he should not keep the head bent forward too long at a time. Should he study languages, he should avoid continuous work; often varying his occupation by giving his attention to something else, and should make no attempt at rapid progress.

Where concave glasses are needed for looking at a blackboard or at a distance, they should not, as a general rule, be worn while studying. If required for this use also, to avoid stooping over the desk, a weaker pair than is needed for distant vision will usually best answer the purpose.

It is important, also, that the eyes should not be exposed to dazzling light; as is unfortunately the case in many school-rooms, where only the teacher is favorably placed in this respect.

Doubtless this indulgent consideration for the optical defects of pupils may have its inconveniences in a crowded school; but I am sure teachers will agree with me that the object of instruction is not to compress a certain quantum of information into every individual, but to render each capable, as far as may be, of using what he does know to the best advantage. Therefore, as the eyes are the most important of the instrumentalities by which we gain knowledge and can make it afterwards available, their safety demands our utmost care. Their soundness as the working organs in school, and as the chief helpers of the cultivated man, may depend upon the thoughtful consideration we give to their infirmities in childhood, before these assume the dimensions of serious disease.

"REFORMS IN GRAMMAR SCHOOLS."

UNDER this head, I find in the last number of the *Teacher* an interesting article from the pen of Mr. Harrington, the excellent Superintendent of the public schools of New Bedford, containing the following paragr. ph:

"Such is the value of a detailed programme or manual of instruction, *when it is operating under favorable conditions.* Now, does it create its own conditions? If once set agoing, will it run

successfully *alone?* Has it within itself the elements of sustaining vitality? Mr. Philbrick, in his very excellent Report of last spring, devoted to the advocacy of a Grammar School Manual, insists that it has. Criticising the position taken by the writer of this article, in a lecture read last fall at Springfield, that a sound appreciation of the philosophy of true education is essential to the success of a programme of instruction, he says that the writer, in taking that position, manifestly begs the question. The writer thus challenged by high authority has carefully reviewed his premises, and now firmly insists that he is right."

I read this paragraph, I confess, with no little surprise. How Mr. Harrington could have penned it, I am quite at a loss to imagine. He certainly could not have intended to misrepresent me so gravely as he has done, for I believe he means to be very fair and kind.

The misrepresentation is two-fold. In the first place, I am made to "insist" upon the manifestly absurd doctrine that a programme "creates its own conditions"; that "if once set agoing, it will run successfully alone"; and that "it has within itself the elements of sustaining vitality."

In the second place, I am made to criticise a certain position alleged to have been taken in Mr. H.'s Springfield Lecture.

Here are two distinct assertions, charging me with having put forth and insisted upon certain views relating to education. And the author of the article, after having "carefully reviewed his premises, now firmly insists that he is right."

Now, I fully believe that both these assertions are totally wrong; that they have no just foundation to rest upon. If Mr. Harrington, after carefully looking over the matter, came to the conclusion that I had used language that would justify his assertions, considering that they were of so grave a nature, why did he not quote my very words, and not give his version of my meaning in his own words? This, it seems to me, he is bound to do, or to retract his assertions.

It will be time enough for me to put in my defence, when the *evidence* in support of the charges is produced. At present, I merely plead not guilty. But as these questions of programmes and "Re-

forms of Grammar Schools" are in agitation just now, I beg leave to quote here in full the paragraphs from my Reports which have been criticised by Mr. Harrington. In my Report of 1866, I referred to the need of a better programme for the Boston Grammar Schools in the following paragraph:

"Several years ago, a detailed programme of the instruction to be given in each class of the Primary Schools was adopted by the Board. Already the beneficial results of this action are apparent. It is now high time to undertake the difficult but important task of preparing a programme of studies and exercises for each grade in the Grammar Schools. The present course of study, as prescribed in the regulations, is too general and vague. As long as the course of study is so imperfectly indicated as at present, merely by naming the text-books to be used at the several stages, most teachers will feel obliged not only to confine themselves to the text-books, but to teach *everything in them*, or rather to require the pupils to learn everything in them. By this ill contrivance, the best teachers are hampered and cramped. They are constrained, against their better judgment, to teach many things which they deem useless, and to teach in a manner which they know is not the best manner. Some are driven by it to perpetrate the two grave educational offences of *cramming* and *high pressure*, which generally go hand in hand. A judicious programme would not only tend to remedy these evils, but it would advance the interests of these schools in various ways, and especially by securing a more equal and profitable distribution of the time of pupils and teachers among the required studies. Here is great room for improvement. Too much time is bestowed upon some branches, — those which are by the examinations made the test of the merits of the schools, — while others are slighted, to the great detriment of the pupils. Too much time is spent — wasted, I am tempted to say — on spelling in the upper classes. Why is this? Because they are almost always examined in this branch before the whole Committee, and the per cent of correct answers carefully noted, and not unfrequently compared with the results found in other schools. Suppose this misspent time were devoted to writing compositions, on the plan which has recently been brought before the teachers of the city, by a professionally educated teacher who has bestowed great attention upon this subject, what a gain would be secured! We would then have, not only real practical spelling, but we should have along with it much of that kind of culture and education in which we are very generally deficient. A judicious programme would tend to promote similar improvements in the teaching of other branches."

Mr. Harrington, in his Springfield lecture, quoted, not with entire accuracy, a part of this paragraph, omitting the sentences in which the word "programme" appears, and then added: "True, every word. But no detailed programme of instruction will remedy the

evil, as Mr. Philbrick suggests. Programme or no programme, so long as the character of examinations for admission to the high schools remains what it is, technical teaching, cramming and high pressure will inevitably characterize grammar school instruction." But he says in another part of the lecture, after stating the two defects to be considered, namely, "that the number of scholars in that grade [High School] of schools is comparatively small," and "that the education of the great majority of the youth who are admitted to our high schools is found, when put upon the work of those schools, to be poor and inadequate," . . . I insist that both result to the extent I have indicated, from the strained and pedantic standard of qualification for admission to the high school which now almost invariably prevails. Change that *standard*, and you will instantly accomplish a corresponding change of results." And again: "The root of the whole matter is this: there has prevailed in Massachusetts, from time immemorial, a very false notion as to what the object of study is, and also as to the relative values of the studies usually pursued in our grammar schools." Then at the close: "For it has been my *only* purpose to consider what studies might be judiciously omitted or abridged, and what it is our duty to introduce."

To my mind, this was about equivalent to saying, a programme will do no good so long as the examinations for admission to the high schools is what it is. What we want is a change of the *standard* of those examinations; in fact, we want a good programme, which is of course the orderly setting forth of *what* studies are to be taken, what omitted, and what abridgment to make; and so I referred to *this* "position," not the position I am said to have criticised, (which, by the way, *I do not find in the lecture*,) in my Report for 1867, as follows:

"It has been objected by a writer on "Our Grammar Schools" that an improved programme will do no good so long as the standard is a false one. But this is a palpable begging of the question. Is it not of the very essence of a programme to *institute a standard?* But it may be said that it is not enough to set up a standard for the grammar schools so long as the standard of admission to the high schools is a different one. That is true. But when you have set up a proper standard for grammar schools, you have at the same time fixed a proper standard for admission to the high schools, so far as it is practicable to fix such

a standard. The School Committee is the sovereign power over both grades, and can enforce compliance with the requirements concerning both alike. I have sometimes complained that the examination for admission to the high schools did not sufficiently conform to the actual work done in the grammar schools, and so was not wholly reliable as a test of the comparative merits of the several grammar schools. Such examinations, and indeed no examinations, can ever be a true and sure test of the merit of previous instruction; and hence I have not approved the policy of putting them forward prominently as tests. With us, the real cause of much of the conflict between our high schools and grammar schools is to be found in the want of precision in our requirements. For example, one of the requirements for admission to the Girls' High and Normal School is "History." This is certainly rather indefinite. Then turning to the programme of the grammar schools, for information as to the limitation of this study, we find that there, until the recent changes already referred to, the requirement in this branch was simply "Worcester's History," with no qualification. But the *whole* of this text-book was out of the question, and so there was really no standard, in the proper sense, for this branch. *If there were a proper standard fixed for graduation from the grammar schools, then it would only be necessary to say that this should be the standard for admission to the high schools.*"

I see nothing here like a criticism of the "position" in relation to "the philosophy of true education." And here it may be remarked that the phrase "philosophy of true education" is rather vague; some authors use it in one sense, and some use it in another. What Mr. H. means by it, I do not know. I should be very glad if he would favor the readers of the "Teacher" with his definition of this phrase.

The article with which I began needs, it seems to me, some criticism other than that which has already been suggested; but I have room for only a few words. It begins by setting forth the advantages of a programme in very strong terms. It does not say in so many words that a programme "will go *alone*," but it attributes to it more capabilities than were ever dreamt of in my philosophy. The programme is made even to "protect scholars from being hag-ridden by the hobbies of school committees or teachers." Then the article proceeds to argue, that after all the programme is only "a lifeless form of words"; and finally, the question is asked, as if it could be answered only in the negative: "Will School Committee-men intermit their hobbies, adopt means of ascertaining the success of their teachers other than the letter of the text-books, and modify the questions they propound for admission to their

high schools, simply because they find such programmes in use when they themselves come into service?" This, I must say, although reluctantly, appears to me like begging the question; for the programme is supposed to embody the very system of instruction which the committee intend to have carried out. It does not seem reasonable to assume that a committee will ignore its own programme. The New Bedford "Manual" says, in the first sentence of the "Introduction," of the purposes it is intended to serve, "first, to embody, in a systematic form, such principles in reference to education as shall clearly indicate to the teachers what the school authorities hold to be the true philosophy on the subject, so that there shall be one common starting point of purpose of endeavor." And then, after the mention of other purposes, this is said: . . "the directions of this 'Manual' will be strictly adhered to and enforced."

I do not go so far as to say that a programme should necessarily embody all the speculative ideas about education held by the authorities; but I do assume, that the programme may fairly be presumed to embody the views of the authorities as to the *choice, order* and *measure* of the studies to be pursued. A committee must stand by its programme, or manifestly stultify itself. A programme is not to be "*imposed*," as suggested in the article. It is to be *adopted* by the authorities that are to administer it. And this implies that it is understood and approved. When the committee and teachers have outgrown their programme, then they should get rid of it, and make a better one. This is the true line of reform.

J. D. P.

ORAL INSTRUCTION.

BY J. W. DICKINSON, OF WESTFIELD.

(Read before the State Association.)

THE mind is the cause of its own activity. The presence to the mind of objects of thought is the occasion of activity.

Teaching consists in presenting to the mind occasions of intellectual activity, and true teaching does not attempt anything else.

Teaching may excite activity by simply presenting objects of

thought, leaving the mind of the learner to invent its own thoughts; or it may excite the activity, by presenting the expressions of thoughts which other minds, in thinking of objects, have invented. In the first case, the teacher calls the attention of his pupil to the objects of study by words of his own; in the second case, he directs the attention to written expressions. The first teaching is called "oral teaching," the second "written."

Teaching, then, with reference to its external modes, may be divided into oral and written teaching.

Let us examine these two modes.

We have found that the mind may be excited to activity by objects and by written expressions.

Objects excite the mind to that activity which leads to the invention of ideas and thoughts.

Written expressions excite to activity by leading the mind to attempt to understand, not objects, but the thoughts which other minds have invented in thinking of objects. A power that is active in producing or inventing something is an active power. A power that is active in receiving or understanding what has been produced or invented by another mind is a passive power.

Oral teaching excites to activity the productive or active powers. Written teaching excites to activity the receptive or the passive powers.

Thus we find that the two kinds of teaching occasion different results; and these different results will exhibit themselves in the condition of every mind in accordance with the kind of teaching to which that mind has been subjected. If the student in the study of language has been trained to use and to construct the language he studies, he will have the power of using and constructing that language.

If he has been trained simply to understand the use and construction employed by other minds, then he will have no power over language, except to understand what has been done by another. He will be almost as powerless for making an independent use and construction for himself as though he had never been the subject of a written teaching of language.

What [*English*] student that has done nothing with the Latin

and Greek but commit the grammars of these languages to memory, and translate what has been constructed for him, ever acquired the power to use them as instruments of thought, or the ability to construct Latin and Greek for himself?

The student in Geometry, whose active powers have been trained in its study by a correct oral teaching, can make problems and solve them; while he whose passive power only has been called into activity by books, or by written teaching, must content himself with simply understanding problems that have been invented and solved by the active power of some other mind.

The end of the teacher's work is to train the intellectual powers of his pupils so that the source of activity will be found in the powers themselves. With such training, the mind will acquire the power of independent action.

One defect, then, in written teaching is found in the fact, that it occasions only passive activity. One advantage experienced in oral teaching is found in the fact, that it excites into exercise the active powers.

Again, oral teaching employs the living voice, and by this means brings the mind of the teacher into sympathy with the mind of the learner. This sympathy, thus excited, determines in the minds of both teacher and taught a greater mental activity than would be excited by written forms of expression. Every successful oral teacher knows what an intense attention is excited whenever there exists a consciousness that both teacher and taught are thinking together of the same object.

The living voice of the teacher furnishes the best occasion for this concurrent attention.

Oral teaching occasions distinct, accurate and systematic thinking on the part of the teacher and taught; for such teaching requires the master to realize all his ideas and thoughts in illustrations, and it requires the pupils to arrange the thoughts they have invented in the order of their dependence.

A consciousness of the communion of mind in teaching and in studying, awakens the mental powers of both teacher and pupil to a life they are not conscious of possessing when they exercise only a solitary activity. Mind must be excited by mind, and must con-

tend with mind, before all the energy a power possesses can be called into exercise. The solemn monotony that reigns in every school-room in which a text-book constitutes the only medium between the object of study and the student can be removed only by removing the medium, and by bringing the minds of the teachers and pupils into absolute contact with one another.

Signs of ideas are not signs until the things signified have been known.

Therefore the mind cannot primarily pass from signs to things.

Written teaching, then, not only does not occasion the exertion of active power, nor the most exalted mental energy, nor the most accurate, distinct and systematic thinking, but upon new subjects or objects it will not result in anything but a knowledge of words.

From this arises the necessity of oral teaching.

A course of study should be divided into two courses.

The first course should have for its object the training of the powers of observation, and the acquisition of a knowledge of facts that are to be used as the occasions of future scientific knowledge.

This course may be called the elementary course.

While the pupil is acquiring elementary knowledge, the laws of his mind require that every object of study be brought into his presence, and that his study be directed by oral teaching.

This study of facts will lead to a knowledge that will be used in a future classification of the objects.

A scientific course of study will consist in such a collection and arrangement of topics as will lead the student to the acquisition of a knowledge of classes, and a knowledge of the relations that effects hold to their causes.

In pursuing the scientific course, then, the student must be taught to arrange the objects of his study into classes, and to find the causes of the phenomena observed in the elementary study.

In this course, objects of study and the living voice of the teacher are again required to lead the student back over the ground he has passed, that he may again be conscious of the knowledge from which he is to derive his new knowledge.

Elementary knowledge is particular. Scientific is general knowledge.

The terms that express particular knowledge are proper names; the terms applied to general knowledge are general abstract terms.

Written teaching does not necessarily present anything but words.

If we inquire what ideas and thoughts are expressed by the general terms we use, we shall immediately be conscious that to us who have been taught by books these general terms express no definite notion, or what is more probable, they express no notion at all.

In reasoning, we use general terms altogether, except for illustration. Now, if we have been so taught that we have no well determined ideas expressed by the terms we use in reasoning, it is not strange that mere verbal discussions abound among all classes of thinkers, and especially among those who discuss topics connected with education. Taught by books or by written teaching, one will use the term teaching for the term instruction, and either of these terms for the term education, and all the time he is entirely unable to realize in his consciousness what definite meaning is expressed by any one of them.

We have no right to a general abstract term, until by oral teaching we have been led to analyze objects of thought for common qualities, and by a law of the human mind have been led to make common to all objects of a kind those qualities we have found by analysis common to a few, and have then thought of these qualities apart from the objects to which they belong, and have given to these general abstract qualities general abstract names.

Then when we use these terms, they will be to us names of well-known ideas.

Such teaching would completely change the character of our general knowledge, and of our thinking.

From what has been said, it appears that oral teaching is necessary to the development of active power, to the existence of intense intellectual energy, and to distinct and accurate knowledge.

No teacher is ready to produce the highest results which his divine art is capable of producing until he has possession of all objects of thought he wishes his pupils to possess, and a complete well

classified knowledge of these objects for himself, and a plan by which he can lead his pupils with the living voice through the stages of their progress, to have that power of acting and that real knowledge which will result in a state called education.

Oral teaching prepares the mind to use books. The books themselves are to be used as the means with which facts beyond the power of the student to observe are to be made known to him, and then he is to be left to study for causes and for consequences.

In this country, the productive power of the student is not much trained in the schools; and the result is, that all departments of human society are full of men who have no power to invent thoughts, but who, seizing upon the opinions of others, advocate doctrines they do not understand, and who, crushing out that spirit which prompts the mind to demand a reason for all belief, do all they can to bring into disrepute everything that looks like philosophy in teaching and in study.

THE FIRST DAY.

In her school-room sat a teacher, just elected to the place,
She was young — you might have known it by her fresh and happy face,
By the bright, expectant glances, shyly given o'er and o'er,
At the children that came trooping through the partly-opened door.

On her desk there lay a letter — that same date, I saw, it bore,
And she wrote, the while her scholars conned their simple lessons o'er
I, invisible, behind her, copied down the happy rhyme,
Interspersed with children's voices, upward borne from time to time.

"Dear," she wrote, "we made the promise when our glad school days were o'er,
We would treasure up the friendship formed in those sweet days of yore;
We would tell of our brave action in the great world's busy strife,
And together win a laurel on the battle-field of life."

"Dear, you ever were a poet, — you will tell me, when you write,
Of the true, good songs you've given, full of purity and might,
You were born with many talents, — I have found my single one,
Let me tell you of the great work I but this day have begun."

When you bear the name of poet, with your own true royal air,
I shall hold the name of *teacher*, dearer than the crown you wear,
I shall covet not your honors, though the world's hosts praise as one,
If the children call me blessed, when my noble work is done.

Listening while I sit and write you, childish voices, low and sweet,
Toward my desk come gently wafted — ('Johnny Smith, you've got my seat:')
Watching, as I rest a moment, greet me faces fair and bright,
And I seem to see before me — ('pickled limes? give me a bite?')

Mine the task to ever lead them lovingly and kindly on
Over learning's rugged pathway, where the true and great have gone,
Mine to show them, through the darkness, where the light of science glows,
Lead their feet from thorny error — ('Bill, have you got "copper toes?"')

Mine it is to guide their young thoughts, under Duty's stern control,
Help them breast the raging billows that are beating 'gainst the soul,
Hopeful, cheerful walk beside them, even to the very brink
Of the blessed fount of knowledge, — ('Teacher, can't I have a drink?')

They shall grow good men and women; they shall stand, when childhood's o'er,
High in Fame's proud temple — ('Teacher, some one's knocking at the door.')
I will bind their young hearts closely to my own in fond caress,
They shall never seek to leave me — ('Please can I go at recess?')

I must leave you, — duty calls me, — I will finish by and by,
For the spelling class is ready, and the reading lesson's nigh;
Now my work begins in truth, but *labor omnia vincit*, dear,
To the call my heart responsive whispers, "Be thou of good cheer."

Shadows fall — the room is silent and deserted save by one;
At her desk the new-made teacher lingers, glad the day is done;
But the busy pen has fallen from her weary, listless hand,
And the salt tears falling, drown her hopes and aspirations grand.

She is young, and but a woman; is it strange those tears should start
While this first great disapointment lies so heavy at her heart,
Do you wonder that the letter crumpled lies, while from below,
On the evening breeze comes wafted "Aint she a great school-ma-am, Joe!"

D T.

Editors' Department.

MEETING OF THE MASSACHUSETTS TEACHERS' ASSOCIATION.

THE success of the late meeting of the Massachusetts Teachers' Association was beyond precedent. More than three thousand teachers were in attendance. That this statement is not an exaggeration is evident from the fact that over twenty-four hundred free return tickets were given out, none of which were granted to persons who lived within ten miles of Boston. The teachers belonging to the cities and towns not entitled to return-tickets number about thirteen hundred, nearly all whom were present. Three large halls were crowded, so that many sought in vain to gain admission; and, from first to last, the exercises challenged the highest interest and enthusiasm. We venture to assert that the meeting was the largest and the most useful educational gathering ever held in America. Its influence will be deeply felt throughout the Commonwealth. Every teacher present, from the highest high school to the humblest primary school, enjoyed the grateful privilege of listening to lectures, essays, discussions, and practical exercises bearing upon his or her own department of labor. New views upon many subjects were presented, and old ones were reconsidered. An earnest desire was manifested to establish sound principles, and to seek out the wisest methods. The work of the meeting was performed almost exclusively by practical teachers, both men and women. Stolid indeed must that teacher be who can mingle with such an assembly without feeling a higher pride in his useful calling, and gaining fresh inspiration for the faithful discharge of his daily duties.

It may not be out of place to make here a few remarks regarding the annual meetings of the State Teachers' Association. We will note particularly three points, namely: the time of meeting, the place of meeting, and the character of the exercises.

1. *The time of meeting.* For many years the annual meetings were held on Monday and Tuesday of Thanksgiving week. It was customary to solicit the families of the town or city in which the Association assembled to entertain gratuitously the lady teachers in attendance, the gentlemen providing for themselves at public houses. Years of trial clearly showed that there were at least two serious objections to that time of meeting. The first was, that the teachers, generally, and very naturally, desired to spend that week with "the old folks at home," and hence comparatively few were found at the yearly convention. The second was, that families were reluctant to entertain strangers at the very time when special preparations were in progress for the welcome of absent relations

and friends. Only those whose ungrateful duty it was to obtain hospitalities for the Association can quite appreciate the difficulty experienced in securing the coveted entrance into strange family circles. Sometimes it was almost impossible to obtain the necessary accommodations; and year after year the Association appeared as a beggar, asking for food and lodging, which were given now cheerfully, now grudgingly, and now were flatly denied. It was often said by really hospitable people, "We would cheerfully entertain you at any other season of the year, but we want Thanksgiving time to ourselves and our old friends."

Taking these facts into consideration, the Directors of the Association resolved to change the time of the annual meeting. The summer vacation was selected, that being the only other period in the year when schools throughout the State were not in session. A meeting was accordingly held in Worcester in the month of August; but it proved a failure. Several national educational bodies were then holding their State gatherings; teachers generally were widely scattered, in pursuit of rest, recreation, and health; hence but few responded to the summons of the Association.

The practical difficulty in the way of holding meetings in the summer vacation is this: the summer terms of the schools in the various towns and cities close at different times, and the fall terms begin at different times. In some places, the schools close early in July and re-commence in the latter part of August; in others, they close about the first of August and re-open in September. The second and third weeks of August are therefore the only weeks in summer when all the public schools of the State are closed. To most teachers, this period comes about the middle of their vacation — a time when they are generally absent from home, and are so occupied with business or needed recreation that they cannot then leave their places of resort to attend a convention, without great inconvenience and expense.

After the failure of the August meeting in Worcester, the Association returned to Thanksgiving week as the time for its yearly gathering. It resolved, also, to meet in some large city, and to abandon the practice of asking for gratuitous entertainment. This plan was pursued for a while with moderate success. Still, the number in attendance was small compared with the whole number of teachers.

Again and again the question arose, "When is it best to hold the annual meeting?" The two general vacations had been tried, with results not wholly satisfactory. Was it wise to try term time? With a good deal of doubt and apprehension, the Directors resolved to hold a meeting in October, and to ask the School Committees of the several cities and towns to grant the teachers leave of absence on the days appointed. With hardly an exception, the Committees responded favorably; and so did the teachers. Nearly three thousand teachers assembled in Boston. The exercises were eminently practical. The enthusiasm which always goes with large numbers, engaged in a common cause, was deeply felt. The meeting, once regarded as a hazardous experiment, was now a grand success.

Thus far, four meetings of the Association have been held in October; three in Boston, one in Springfield. The experiment has clearly shown that at least five or six times as many teachers can be brought together in the month of October as ever assembled in the summer or winter vacation.

The chief objection to the holding of the meetings in the fall is, that it interrupts the w k of the schools soon after the close of the long vacation. In reply to this, it may be remarked, that, in order to make room for the meeting of the State Association in October, the autumn sessions of the County Teachers' Associations have been discontinued; so that now the State and the County Associations together take no more time from the schools than was formerly occupied by the latter alone. It may also be observed that the subtraction of one, or, at most, two days from school time, on account of a great educational convention, instead of being a loss is really an important gain to the schools; because teachers, while in good working order, attend the exercises of the convention with earnest minds, gain new ideas and fresh enthusiasm; and at once, before the high tide of renewed zeal and aspiration has ebbed, they resume their wonted labors, and impart to their schools their own increase of vigor and efficiency.

Upon the whole, then, we are fully persuaded that the autumn is the time which is most favorable to the highest success of the State Teachers' Conventions, and to the consequent benefit of the schools of the Commonwealth.

2. *The place of meeting.* The several County Associations are presumed to be well adapted to meet the peculiar local wants of their respective counties. These associations being comparatively small in number can, without much difficulty, meet in any towns of moderate size. But the State Association, whose meetings have been attended, for some years, by several thousand teachers, can find accommodations in very few cities of the State. The great practical question in reference to this matter is this: Where can the largest number of teachers be assembled and accommodated at the least average expense, with the smallest inconvenience, and the greatest profit? That a larger convention can be brought together in Boston than in any other part of the State, no one, we presume, will deny. Indeed facts have settled that point beyond a doubt. No place, of course, can be selected which will equally favor all persons. Some must travel farther than others. The best thing that can be done, as a rule, is to favor the largest number possible,— to consult the general good. Now the number of public school teachers in Suffolk County and the counties to the northward and southward is 4,795; and, if we include Worcester County, no part of which is so far distant from Boston as some towns in Barnstable County, the number is increased to 5,945, or about77 per cent. of all the teachers in the State. For a great majority of teachers, Boston is, therefore, the most central place of meeting. Boston is, doubtless, the only city which, aided by adjacent cities, is able to accommodate the thousands that now attend the State educational conventions. Boston is also peculiarly favored by being able to present, with the least inconvenience, the greatest variety of class illustrations of teaching in every department of study.

Bearing in mind, then, the general interests of education in Massachusetts, we are free to say, that those interests can be more effectually promoted by holding great meetings in Boston than by small ones in other parts of the State. At the same time, if the teachers in the western or southeastern section desire that a portion of the meeting shall be held among them, from time to time, we shall certainly favor their wishes.

3. *The character of the exercises.* We have space for only a remark or two upon this point. The day of formal lectures seems to have passed away. Instead of several elaborate lectures, we now have brief essays on practical subjects, illustrated in many cases by class exercises. The aim manifestly, is to show what to do and how to do it.

The recent division of the Association into three sections has commended itself to general favor It is natural that each teacher should feel an especial interest in what bears most directly upon his own daily work. Ladies engaged in primary schools or grammar schools have often complained that the lectures and discussions to which they have been invited were of little use or interest to them; on the other hand, high school teachers have sometimes found fault, because the principles and modes of classical instruction received but slight attention. At the recent meeting, all such complaints were hushed. High school teachers luxuriated in the loftier realms of learning; grammar school teachers had everything in their own way; and primary teachers justly felt for once that they were setting up business on their own account. Everybody was satisfied, except a very few who tried to be in three places at the same time, and failed in the attempt.

The sectional policy has thus far been highly successful. We are glad to know that it will be continued another year.

Reviewing the year now closing, we find abundant occasion for congratulating the teachers of Massachusetts upon the prosperity which has generally marked their labors as individuals and as an Association; and we express the earnest hope, that the coming year will be marked by still greater achievements in behalf of popular education.

A WORD TO SUBSCRIBERS.

We have now presented you with the twelve numbers of the volume for 1868, and we trust you will acknowledge that we have faithfully performed the task assigned us. That the *Teacher* might have been better, we wil ot deny; that it has given satisfaction to most of its readers, we fondly hope. We have been cheered by the many words of commendation which, from time to time, have reached us; and encouraged by these, we shall enter with renewed zeal upon the editorial duties of 1869. The Finance Committee have to report, that there are hundreds of dollars still due the *Teacher*, and that they are crippled in their efforts to improve it by the lack of money which should have been sent in long ago.

Will you not each ask yourself: "Do *I* owe the *Massachusetts Teacher?*". They regret that many delay payment until near the close of the year. The paper dealers will sell only for *cash*, and the printer should receive his pay when his work is done. You will see, therefore, that you can do them a great favor by sending your subscriptions at once to *George K. Daniell, Jr., office of the Massachusetts Teacher, Boston.* Wherever effort has been put forth to increase the circulation of this journal, it has been successful. Encouraged by this fact, the committee appointed at the last meeting of the Directors to consider this matter, have already entered upon their duties, and ask your aid. We would call attention to the fact, that at a recent meeting of teachers in a distant part of the State, there were *seventy teachers* present, not one of whom was a subscriber to *any* educational journal. This in Massachusetts!

MEETINGS AT THE EDUCATIONAL ROOMS.

THE meetings at the Educational Rooms will be resumed on the first Saturday in December, at 2½ P. M. George T. Littlefield, of Charlestown, will occupy the chair. Subject for discussion: Is the Ignorance of Teachers the Chief Obstacle to their Success? A cordial invitation is extended to all teachers to be present.

MEETING OF DIRECTORS OF MASSACHUSETTS TEACHERS' ASSOCIATION.

BOSTON, Nov. 7, 1868.

THE President, J. W. Dickinson, of Westfield, in the chair.

The Report of the Finance Committee, was presented by D. W. Jones, of Boston.

It was then voted, on motion of Mr. Philbrick, of Boston, that a committee be appointed to petition the Legislature for a renewal of the appropriation usually made for the *Massachusetts Teacher*. Messrs. Philbrick, of Boston; Hagar, of Salem; and Dickinson, of Westfield, were appointed.

A committee was chosen, consisting of Messrs. Hutchins, Cooke, Jones, Philbrick, and Daniell, all of Boston, to concert measures for increasing the circulation of the *Massachusetts Teacher*.

Messrs. D. B. Hagar, John Kneeland and G. B. Putnam, who have so ably edited the *Teacher*, during the past year, were unanimously reappointed. It was also voted that they be allowed to fill all vacancies in the board of contributing editors.

A Finance Committee was chosen, consisting of Messrs. Jones, of Boston; Payson, of Chelsea; and George K. Daniell, Jr., of Boston; and the latter gentleman was appointed to take charge of the subscription list of the *Teacher* for the ensuing year.

It was then voted, that the educational room be retained, provided it can be done at an expense of $100 to the association, it being understood that the remainder of the rent should be obtained by subscription. Messrs. Wheelock, of Boston; Hale, of Cambridge; and Waterman, of Newton, were chosen a committee to solicit subscriptions for this purpose.

It was next voted, unanimously, that the coming Annual Meeting of the Association be held in Boston, on the Thursday, Friday and Saturday nearest the middle of October, 1869, and that the meeting be conducted upon the same general plan as the last one.

GEORGE K. DANIELL, JR., *Secretary.*

DR. LEIGH'S PHONETIC PRINTING.

AT the annual meeting of the Massachusetts State Teachers' Association, held in Boston October 12, 1865, "the chair read a letter from Dr. Bowditch, enclosing one from Dr. Leigh on Phonetic Printing. The letter was referred to a committee consisting of Messrs. Josiah A. Stearns, Albert G. Boyden, William H. Seavey, Abner J. Phipps, and Caleb Emery, with instructions to report in the Massachusetts Teacher."

This committee gave to the subject due consideration, and ere the close of the next annual meeting agreed upon the substance of a report. It was thought proper, however, to delay printing till one, at least, of Dr. Leigh's books should be given to the public. As the case did not seem to demand another meeting of the committee, the final preparation and disposal of the report was left with Mr. Seavey and Mr. Stearns. When Dr. Leigh's books and charts were out, his system began to undergo experiment in several schools, and further delay was desired to await the result. In the mean time, Mr. Seavey died. The subscriber, therefore, now that the facts are all in, presents the following, in behalf of the committee, as their report.

That our mother tongue demands a more perfect system of phonic notation is universally admitted. A full period of two hundred years has witnessed earnest and persistent efforts to attain it. Scholars and men of eminence have devoted toilsome years to the discovery and adaptation of such a system. A brief allusion to some of the men devoted to its accomplishment will give dignity to the subject. Foremost among them is Bishop John Wilkins, a fellow of the Royal College of England. As early as the year 1668, he gave to the public a universal alphabet by means of which he printed specimens of the Apostles' Creed and the Lord's Prayer.

A century later, Dr. Benjamin Franklin produced a phonic alphabet which has since been published in his works; and Noah Webster, America's profound Lexicographer, advocated phonetic reform. Still later, Maria Edgworth and Mrs. Barbauld made similar efforts; so also, in 1807, did Sir William Jones and Dr. Thomas Young, of old England; and in 1808, Mr. William Pelham, of Boston, in New England. In 1820, John Pickering, of whom Massachusetts may well be

proud, devised a plan of reducing new languages to writing. This, he accomplished simply by a regular and phonetic use of Roman letters. African, Indian and Polynesian dialects, he readily conquered; but he could not adapt his system to our regular English text.

More recently, Alexander John Ellis, Isaac Pitman and others, by means of their phonetic type, have sought to revolutionize the orthography as well as the notation of the English tongue. These gentlemen have pursued their object with untiring zeal and lavish expense. They have given to the world many publications in their peculiar type, and have awakened much interest in phonetic methods of teaching to read. But with them, as with Franklin and others who preceded them, the radical nature of their designs has hitherto proved fatal to success. Others attempting less have accomplished more. The Edinboro' system, first presented to the public in 1780 by William Perry, in his Spelling-book, which claimed to be "The only sure guide to the English Tongue," sought to teach reading phonetically without a change of orthography or alphabet. Its plan was simply to present first the most regular parts of our language, and then lead the pupil on by easy steps to those more and more general. This system was in a measure successful, as its leading features may be recognized in nearly all the spelling-books now in use. But it was incomplete. Something better was desirable. An attempt to furnish a more accurate method of phonetic instruction was made by Mr. Israel Alger, a school-master of Boston.

His "Pronouncing Testament," published in 1822; his "Pronouncing Murray's English Reader," published in 1824; and his "Pronouncing Bible," published in 1826, exemplify his system.

It consisted in *re*-spelling a few words, indicating silent letters by italics, spacing syllables, and applying the diacritic marks used in Walkér's Dictionary. These books were greatly approved in their time, and had a wide circulation. They did not aim, however, to produce a perfect phonic text, and they were liable to other serious objections. Such had been the efforts of leading phoneticians, and such their success when Dr. Edwin Leigh commenced his labors, which have resulted in the system of "Phonetic Printing" presented to the Massachusetts State Teachers' Association, and by them referred to their committee for examination.

But simultaneous with the efforts of Dr. Leigh have been those of another philanthropic gentleman. The Rev. C. Zachos presented a system of phonic instruction in reading to the President of the Teachers' Association, who referred the subject to the committee appointed to consider that of Dr. Leigh. The committee gave Prof. Zachos a respectful hearing, though they had originally been appointed for another purpose. A leading feature of Prof. Zachos's system appears to consist in its phonic alphabet. This is made by using the ordinary letters of our alphabet, together with twenty-seven digraphs, each letter or digraph representing only a single sound, and, by applying to a few letters diacritic marks. Sounds are also indicated by spacing syllables, by the presence or absence of the final e, and by *re*-spelling a few words. Silent letters are represented by italic print.

The Professor claims for his system, that it is "a *discovery* rather than an invention," and that it is entirely *original* in its application of principles. This claim of *originality* does not quite appear to your Committee. In their view, Prof. Zachos' plan combines, with some improvements, the systems of William Perry and of Mr. Israel Alger. Indeed, Prof. William Russell tells him in the *Boston Advertiser* of October 14, 1865, that "a system corresponding to this, but much less exact in method and detail, was applied by Rev. Mr. Mulkey to his classes of colored people in Baltimore, about thirty years ago."

The system of Prof. Zachos is, in the estimation of the Committee, very ingenious and a real improvement in the right direction. Its author has bestowed upon it faith and zeal and works worthy of all commendation; but it is, nevertheless, somewhat crude and susceptible of improvement. When perfected, it may doubtless render valuable service as a phonetic analysis of the language. It seems best adapted, however, to the instruction of adults whose reasoning powers are developed, though there is evidence that it has sometimes been employed with success in teaching little children.

The system of Dr. Edwin Leigh differs widely from that of Prof. Zachos, and from every preceding system. It consists in such a modification and adaptation of the type in common use as to enable it to perform the office of a perfect phonetical alphabet. It presents a clear page, agreeable to the eye, and differing so slightly from the common print that a transition from the one to the other is easy and natural. A specimen of the new type may be seen in Dr. Leigh's Pronouncing Edition of Hillard's Primer, which is now used in several of the Boston public schools.

The advantages claimed for the use of this type in teaching to read are thus stated:

"1st. The same letter has always the same sound; there is no confusion from contradictory teaching (as there is in do-go-on, etc.), which aids the memory, and awakens an intelligent interest in the mind of the pupil.

"2d. The child can *use* the letters; they guide him with certainty to the right sound. He can help himself, and be independent; this he loves, and it does him good.

"3d. The *constant* presence in *every* word in the lesson of letters guiding to the right sounds, forms and fixes the habit of giving each sound correctly and distinctly.

"4th. This print leads to natural, easy and interesting methods of teaching. In the charts, the sounds are arranged and taught in their natural order and relations. There is a harmony and rhythm which is natural, and therefore pleasing to the children, arresting and fixing the interested attention of the whole class."

Such is the system, to the discovery and perfection of which, Dr. Leigh has devoted the most self-denying, earnest, heroic effort, during a period of more than twenty years. For his devotion to science, if nothing more, he certainly deserves profound commendation.

Long since, this committee were prepared to report a favorable result of their

investigations; but, as no books in the new type were then published, it was thought expedient to delay any public statement till opportunity should be given to test the system in the school-room.

Hillard's Primary Reader; Hillard's Second Reader; Sargent's Primer; Saunders' Union Pictorial Primer; Saunders' Union Reader, No. 1; Watson's National Primer; McGuffie's Primer; McGuffie's Primary Reader; Leigh's Sound Charts, and a portion of Philbrick's Phonic Tablets, have now, for a considerable period, been before the public in the new type. They have sustained the required test in practical teaching, and afforded to persons using them entire satisfaction. From St. Louis, from the Capital of the Nation, from New York, from Boston, from all over the land, come the testimonials of distinguished educators, who have tested Dr. Leigh's system in their school-rooms, and decided unequivocally in its favor.

A single recommendation may serve as a specimen of the whole. It is from the distinguished Principal of the Boston Training School and her associates.

"As compared with our corresponding classes in former years in common print, the classes we have taught the past year in Dr. Leigh's print,

"1st. Learned the letters and *sounds* with as great facility as the others did the *Alphabet*.

"2d. Read twice as many pages.

"3d. Pronounced much more correctly and distinctly.

"4th. Analyzed words or spelled by sound admirably.

"5th. Could study their lessons, finding out new and hard words themselves, without any one to tell them.

"6th. Made the transition to spelling by letter without difficulty,

"7th. Made the transition to reading in the common print without difficulty.

"8th. Read fluently, calling words at sight, instead of spelling out so many words.

"9th. Read naturally and with expression.

"10th. We secure more interest and wide-awake attention from the whole school.

(Signed) "JENNY H. STICKNEY,
"M. MITCHELL,
"E. J. CONGRAVE,
"A. I. BAKER,
"J. P. TITCOMB."

Making all due allowance for the enthusiasm naturally excited by any new method, in the face of such results from practical tests, and in view of all the facts corroborated by the personal observation of at least one of its members, the Committee cannot do otherwise than accord to Dr. Edwin Leigh's system of phonetic printing and instruction their hearty and entire approbation.

For the Committee.

JOSIAH A. STEARNS,
Chairman.

INTELLIGENCE.

Items for this Department should be sent to G. B. Putnam, Franklin School, Boston.

WM. T. ADAMS, of Dorchester, formerly an editor of the *Teacher*, and the "Oliver Optic" of literary fame, has been elected to a seat in the Legislature. The *Springfield Republican* is responsible for the statement, that upon being informed of his election, he actually stopped writing for *ten minutes*. Those who watch the rapidity with which his books issue from the press of Lee and Shepard will see the point.

DR. JOHN P. ORDWAY, the zealous leader of the anti-whipping party in the House last winter, has the permission of his constituency to remain at home this season. He was nominated for re-election at a Democratic caucus; and while his associates upon the ticket were elected by a large majority, a good Republican was chosen in his stead.

WM. JOSSELYN, a graduate of the Bridgewater Normal School, *about* the year 1857, was killed at San Leandro, Cal., in one of the recent earthquake shocks, while performing his duties as county clerk in the court house.

MR. WATERHOUSE, formerly of the Augusta High School, has taken charge of the Newton High School: salary $2,500 per year.

ALBERT S. BICKMORE, of Cambridge, who for four years was an assistant of Prof. Agassiz, and who has spent three years in exploring the islands of the Indian Archipelago, and portions of China and Japan, and making collections in zoology, geology, etc., has been elected Professor of Natural History in Madison University, New York.

CHARLES M. LAMSON, of the class of '64, Amherst College, who has just returned from a course of European study, has been appointed Williston Instructor in English, in the department of Elocution and Rhetoric, in Amherst College.

GEORGE L. GOODALE, of the class of '60, Amherst College, has been appointed to the chair of Natural History in Bowdoin College, Brunswick, Maine.

JAMES KENT STONE, the new President of Hobart College, is the youngest College President in America. He is a graduate of Harvard, and is only twenty-eight.

PROF. TYNDALL, whose works on Heat, Sound, etc., have so interested some of our readers, is expected to visit this country, and give a course of lectures in the fall of 1869.

Hon. George W. Hoss, State Superintendent of Public Instruction in Indiana, has resigned that position, to accept a Professorship in the State University.

Miss Sarah D. Duganne, who left the Boston Training School in July last, is now at the head of the Cincinnati Normal School.

James B. Tyler, A. M., for more than three years Principal of the Millbury High School, has resigned that position, and entered Yale Divinity School.

J. O. Sanborn has resigned the charge of the Cradock Grammar School in Medford, and has accepted that of the Winchester Grammar School.

John Hancock, the indefatigable Superintendent of the Cincinnati Schools, receives a salary of $3,500.

Richard Edwards, President of the Illinois State Normal University, receives $4,000.

The Superintendent of the Chicago Schools receives $4,000.

Prof. M. McVicar, Superintendent of the Schools of Leavenworth, Kansas, has $3,500. The West is doing nobly.

Horace Mann, the eldest of the three sons of the late Horace Mann, died of pulmonary disease, at his mother's house in Cambridge, on Wednesday, after a brief illness. He was twenty-four years old, had been a pupil of Thoreau, of Agassiz, ad of Gray, and was rising to eminence as a naturalist. Seven years ago he accompanied Thoreau in his last journey to Minnesota; and three years ago he explored the Sandwich Islands and made collections of its plants which are of much value. He was long engaged, with other young men, in arranging the specimens in Mr. Agassiz's museum at Cambridge, and had given lessons and lectures on his chosen subjects. Of a quiet and reserved disposition, he was less known than his talents deserved, but was greatly esteemed by all who knew him. He was buried yesterday, at Cambridge, where his family have resided for two or three years.

Edward Shippen, Esq., has resigned the post of President of the Board of School Controllers of our city. In losing Mr. Shippen, the common school system loses one of its ablest advocates and most experienced Directors. He has been for many years intimately acquainted with its administration, and is the recognized author of many of its most important reforms. Seeing that the accommodations of the buildings in various portions of the city were not only inadequate, but also unhealthy, he became the father and defender and successful advocate of the million loan which was authorized by Councils within the past two years Mainly to the energy of Edward Shippen is it due that we have now in every section of our city a building for the education of the rising generation, which is not only commodious and healthy, but also a just cause of pride for us as citizens of Philadelphia. This is but one of the many improvements which the outgoing President has inaugurated. In losing Mr. Shippen the common school system of Philadelphia loses its warmest advocate and sincerest .friend. — *Philadelphia paper.*

Chicopee Falls. — The French Canadians of Chicopee Falls have established an evening school, and forty young Canadians have been gathered into it. The text-books are in the French language. M. Horoux, of Three Rivers, Canada, and a graduate of two Canadian Colleges, is the teacher.

Chicago. — Among the newly appointed teachers in the High School are C. G. G. PAINE, formerly of the Latin School, and ALBION CATE, of the Dwight School, Boston.

MR. MERRILL, of Fall River, Mass., has been appointed to the principalship of the Brown School, in place of S. S. White, now Principal of the Normal School, Peoria. The High School has 507 pupils. The evening schools had an average attendance of 743 during the first week. An evening High School numbers 52 pupils.

San Francisco—Come with me and take a look at the schools of this city. We climb the hillside, reach a large, solid, substantial building, as attractive without, as neat within, as school buildings in Eastern States. The rooms are well finished and furnished, and as tidy as soap and sand and scrubbing brush can make them. It is a girls' school—the Denman—and Mr. Swett, a son of New Hampshire, formerly State Superintendent of California, in charge, with about eight hundred girls under his care. Their eyes are as bright, their voices as sweet, their cheeks as blooming, their intellects as keen, as those of the East. Transportation to this side of the Sierra Nevada has diminished none of the iron or oxygen in the blood of this rising generation. San Francisco has the school system of Boston. Buildings, discipline, order, precision, advancement are the same. We have seen worse schools in Boston than this, and but few, if any, better.

A few minutes' walk and we are at the Lincoln school — a building more costly than any school-house in your city — built in flush times, elegant, and, in an architectural point of view, an adornment to the city. Flowers bloom in the well-kept grounds in front of the edifice, and there stands a finely executed statue of President Lincoln, the gift of a public spirited, patriotic citizen. This is a boys' school. The cosmopolitan character of this community is seen in the schools. The head-master of this school is a Pole; the teacher of music, an Irishman. English, Irish, German, French, Italian, and South American children are found in the classes. There is no machine in the world like the common school system of the United States for grinding up odds and ends and reducing rags to common pulp. The order, discipline, and thoroughness manifest in this school is excellent. A visit to these two schools is sufficient to show that San Francisco is not a whit behind Eastern cities in her common schools. The city has a Normal School, also a school for the education of teachers, a High School for boys, one for girls, one Latin, eight grammar, twenty-four primary, and one colored school. In 1860, the number of children in the city under fifteen years of age was 12,116; the census of this year gives 34,720, an increase of about 300 per cent. Twenty thousand of these are in the schools, being educated at an annual expense of three hundred and twenty thousand dollars. The principals of the

high schools have a salary of $2,500, gold; the female assistants in the high schools receive $1,200, gold. The principals of the grammar schools receive $2,100; sub-masters $1,500; female assistants from $600 to $1,000.

An attempt was made by the Romanists, some time since, I understand, to obtain appropriations for the schools under their charge, which was defeated. They have twelve private schools under their control, with an attendance of about 3,400 pupils, including young men preparing for the priesthood. Besides public schools, there are seventy or more private schools, but the standard of education in them is far below that afforded by the city.—*"Carleton" in Boston Journal.*

BOOK NOTICES.

THE HUMAN INTELLECT, with an Introduction upon Psychology and the Soul. Noah Porter, D.D., Clark Professor of Moral Philosophy and Metaphysics in Yale College. 8vo, pp. 670. C. Scribner & Co., New York.

It has been known to some, at least, of our readers, that the distinguished scholar, Prof. Porter, has for years been at work upon this treatise, which is without doubt, the most complete that has appeared in our language. It was prepared primarily as a text-book for colleges; and that it might be adapted to this purpose, the definitions, propositions and arguments are concisely stated and printed in large type, while that which is explanatory or illustrative and more popular in its character is in smaller type.

Its philosophy is plainly of the spiritual and theistic tendency, as contrasted with the materialistic and anti-theistic.

Such a work, the result of years of toil, by an acknowledged master in metaphysics, challenges the honest criticism of the student.

LEE & SHEPARD with their accustomed enterprise, are preparing for a brisk trade, in anticipation of the Holidays. Among their new books we find two from the ever-busy pen of the children's favorite, Oliver Optic.

FREAKS OF FORTUNE; or, Half Round the World, which is No. 2 of the Starry Flag Series: and MAKE OR BREAK; or, The Rich Man's Daughter No. 5 of the same series.

These are both serial stories, which have appeared in "Our Boys and Girls,' and are in great demand. They also publish the following:

THE LITTLE SPANIARD, or Jose's Grandson, is No. 4 of the "Helping Hand Series," by May Mannering. These stories are well told, and never fail to interest.

DOTTY DIMPLE OUT WEST is No. 3 of the Dotty Dimple Stories, by Sophie May, and is just as entertaining as the volumes which have preceded it We pity the full grown man or woman even, who cannot laugh heartily at the bright sayings and doings of Little Dotty.

THE PHILOSOPHY OF DOMESTIC LIFE, by W. H. Byford, M. D., of Chicago, Ill. Pp. 174.

A plea for such educational reforms as shall prepare the young for their anticipated political, legal, and family relations. One chapter treats of the "Ethics of Married Life."

HALL'S ALPHABET OF GEOLOGY; or, First Lessons in Geology and Mineralogy, by S. R. Hall, LL. D., pp. 196. Gould & Lincoln, 59 Washington Street, Boston. This little work seems eminently adapted to supply the wants of those who are just starting in this department of Natural Science, and may well serve as an introduction to the more complete works of Hitchcock, Dana, Shepard, and others.

We are particularly interested in "Localities and List of Minerals found in New England and the Middle States," and "Family and School Cabinet," both of which will be of great service to any young student who desires to furnish himself with a mineralogical collection, and to arrange and classify it without the aid of an expert.

LION BEN, OF ELM ISLAND; by Rev. Elijah Kellogg, "Author of Spartacus to the Gladiators." Pp. 265.

This volume is the first of the Elm Island Stories, the object of which will be to inspire respect for labor, integrity, and every noble sentiment, while presenting the exciting scenes and peculiar perils of frontier life. The boys will like them.

CHANGING BASE, or What Edward Rice Learnt at School. William Everett Pp. 282.

This is a boys' book, by the youngest son of Edward Everett, who for the present, is turning his attention to authorship. The scene opens with an inside view of the Boston Latin School, where Mr. Everett fitted for Harvard. Will Ned Rice become as famous as Tom Brown?

THE MIMIC STAGE: A series of Dramas, Comedies, Burlesques, and Farces, for Public Exhibitions and Private Theatricals. George M. Baker. Pp. 290. The pieces presented have already stood the test of public approval.

Dr. HOWELL'S FAMILY. Mrs. H. B. Goodwin. Pp. 361.

THE GOLDEN ROBIN, for the use of Juvenile Classes, Public Schools and Seminaries. By W. O. Perkins. Boston: Oliver Ditson & Co. Pp. 224.

The four parts into which this work is divided comprise respectively "Musical Notation"; "Rounds and Exercises Adapted to Physical Action"; "A Large Collection of Pieces for General Use and Various Occasions"; and "Sacred Music."

We have examined the "Golden Robin" with care and great satisfaction. It contains, in addition to a large amount of standard music, many excellent pieces, written expressly for it by the editor. A valuable feature of the book is the large number of beautiful songs, written by Mrs. M. B. C. Slade, and set to music by Mr. Perkins. These songs are especially adapted to the various circumstances of schools, and cannot fail to be a source of pleasure to teachers and scholars. We confidently recommend the Golden Robin to those who are looking for a good singing book for use in schools.